DOCUMENT RESUME

ED 357 639 FL 021 239

AUTHOR Sierra, J.; Olaziregi, I.
TITLE EIFE 2: Influence of Factors on the Learning of Basque. Study of the Models A, B, and D in Fifth Year Basic General Education. Glotodidaktika-Lanak 33.
INSTITUTION Basque Autonomous Community, Vitoria (Spain). Dept. of Education, Universities, and Research.
REPORT NO ISBN-84-7542-695-6
PUB DATE 89
NOTE 55p.; For related studies, see FL 021 238-240. Color graphics may not copy well.
AVAILABLE FROM Servicio Central de Publicaciones, Gobierno Vasco, Duque de Wellington 2/01011 Vitoria-Gasteiz, Spain
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Basque; *Bilingual Education; Comparative Analysis; *Curriculum Design; Elementary School Students; Foreign Countries; Grade 5; Intermediate Grades; *Language Maintenance; *Language of Instruction; Language Research; Models; *Native Language Instruction; Second Language Learning; Spanish Speaking; Surveys; Uncommonly Taught Languages
IDENTIFIERS *Spain

ABSTRACT

This study on Basque language learning is part of a project investigating alternative curriculum designs to promote native language maintenance in the Basque Country of Spain. This study measured the level of Basque and Spanish of fifth-graders (n=586 divided among 167 classrooms) in three program models (Basque taught as a second language--Model A, Spanish-Basque bilingual--Model B, and instruction primarily in Basque--Model D) in 1987; studied factors influencing the learning of the languages; compared the new data with that of 1983-84; and examined the bilingual model in greater depth. (MSE)

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E.I.F.E. 2

Influence of factors on the learning of Basque

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FL021237

33
Euskara Zerbitzua
Glotodidaktika-lanak

GLOTODIDAKTIKA-LANAK 33

Euskara Zerbitzua
Hezkuntza, Unibertsitate eta Ikerketa Saila

1st Edition: July 1989
Issue: 600 copies.

Administration of the Autonomous Community of the Basque Country
Dept. of Education, Universities and Research

Published by: Central Publications Service of the Basque Government
Wellington Dukea, 2 ; 01011 Gasteiz; Spain
Translated from the original in Basque "EIFE 2 Euskararen Irakaskuntza: Faktoreen Eragina"

Printed by: ITXAROPENA S.A. Araba Kalea 45, Zarautz
Photoset by RALI, S.A. Particular de Costa, 12-14. Bilbao
ISBN: 84-7542-695-6
Legal Registration: S.S. 833/89

EIFE 2
Influence of Factors on the learning of Basque

Study of the models
A, B and D in fifth year Basic General Education

Gasteiz 1989
CENTRAL PUBLICATIONS SERVICE
OF THE BASQUE GOVERNMENT

FL 021186

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Thanks are due to the field-workers, students and teachers who took part in the sampling, to those colleagues who have collaborated throughout the study, both in editing and criticizing, and in particular, for his inestimable assistance, to Mikel Zalbide.

The Autonomous Community of the Basque Country is one of the seventeen such regional communities of Spain under the 1978 Spanish Constitution. It enjoys a broad range of powers in most spheres of public administration, including education. Basque, spoken by about 25% of the population and linguistically very unlike Spanish, and Spanish itself, spoken by virtually all, are both official languages within the Community (Basque is also a native language in the neighbouring Community of Navarre and, on the other side of the Franco-Spanish border, in the Département des Basses-Pyrénées).

According to official language policy within the Autonomous Community all students up to University level have to carry out their studies in one of three bilingual teaching models: model A (Spanish-medium teaching; Basque as a subject); model B (both Spanish and Basque are medium and subject) or model D (Basque-medium teaching; Spanish as a subject).

These studies are carried out in one of three types of school (public, private and ikastola), maintained partly or wholly by the Basque Government. Public schools are government-owned, private schools privately owned (usually by religious orders but also by lay groups) and *ikastola* schools privately owned. The latter were founded in most cases by parents interested in the transmission of Basque as mother tongue (and to a lesser extent as second language) at a time when neither the public nor the private systems made any real provision for such. Most *ikastola* schools are at present engaged in a process of integration with the public schools in a single new public school system.

PRESENTATION

The Autonomous Community of the Basque Country, as is well known, has two official languages. With the object of giving substance to that double recognition of officiality, the Basque Parliament has assigned some well-defined tasks to the educational system, among them the adoption of measures to guarantee that students may have sufficient practical knowledge in both languages, on equal terms, on completion of their compulsory studies. Hence the shaping and consolidation of a bilingual system of education have been, from the outset, among the basic aims of the Department of Education, Universities and Research.

It is obvious that a commitment of this sort cannot be carried out overnight. The initiative is one that from the beginning calls for a broad planning endeavour and for abundant resources. And it requires, moreover, the appropriate coordination and orchestration of such means and objectives with a view to guaranteeing as far as possible the quality of the initiatives being carried out. What is called for is, in short, a gradual deployment of resources.

From this it is possible in turn to deduce the necessity and usefulness of evaluation. The Department has over a period of several years been measuring, by way of the research programme EIFE, the level of knowledge in Basque and Spanish of students in the Basque Autonomous Community and analysing which factors, and to what extent, influence the attainment of such levels of language competence. One fruit of this undertaking is the present paper, in which the conclusions of the study phase EIFE 2 are gathered together in summarized form.

The Department is well aware that these conclusions are merely provisional; and it thus considers that they are more valuable by virtue of the path they open up and of the scope for reflection they furnish than for the categorical judgements they might suggest. It would be equally unadvisable, however, to try to undervalue and suppress the data thus afforded at the end of a serious and sustained effort: even after taking its undeniable limitations and preconditions into account, the EIFE study presents a panoramic overview of valuable empirical evidence relative to the changes and advances that are being produced in the configuration of our bilingual system of education; and it is therefore fitting that the data and results achieved be made known. EIFE 2 offers, in short, new testimony on the effort of the educational community in the Basque Country to accommodate

its structure to a framework of bilingual coexistence. And as in the case of any other testimony, it offers us an additional element to help gain a certain perspective on the remodelling under way: hence its validity and relevance as reference material for understanding the nature of such a process and for facilitating the correction of the errors detected.

The task which, over and above traditional aims, Basque society has entrusted to the school-system is by no means a simple one. And to the success of this undertaking we would be lending scant support if, in a search for miraculous solutions, we fell into excessively trusting and simplistic ways: in the same way that the results achieved up to now are the fruit of patient work overcoming obstacles and solving complex situations, it is to be expected that the culmination of the process under way will still have to surmount difficulties that are no less significant or far-reaching. There are two specific reasons for not underestimating these difficulties: on the one hand the rigidity and inertia inherent in any educational system, which hardly favour any radical change one might wish to adopt to meet the demands of society; and, on the other, the limited character of the possibilities of the school as a determining factor in the mode of social organization of language behaviour: it does not seem sufficient, where the aim is to promote Basque, to make particularly intense efforts in the educational area if such efforts are not accompanied by similar endeavours in other spheres of society. Such a short-sighted course of action can give rise, on the contrary, to a situation in which the bilingualism of Basque society is relegated, fundamentally, to a marginal event in the life of school-children. It is thus advisable to avoid excessively optimistic expectations as far as possible, in order not to give rise to sterile frustration.

It would be equally inadvisable, however, to encourage attitudes of dejection and pessimism. The pursuit of an effective bilingual educational system is in itself a realistic objective: this fact is demonstrated by the many experiments previously carried out in various multilingual locations, and, what is more conclusive, by the undoubted success with which not a few of them have crowned their endeavours. Such experiments indicate that bilingual education can develop into a high-quality and enriching reality and that, once one succeeds in duly coordinating the action of the various agents involved in education, highly satisfactory results are achieved.

The research programme that, with respect to the achievement of the language goals assigned to the school system in the Basque Autonomous Community, is being carried out by the Department of Education is already yielding the first pieces of information: proof of this is especially afforded by the conclusions deriving from the studies EIFE 1 and EIFE 2; furthermore it cannot be forgotten that the phase EIFE 3 is beginning to offer new evidence. And, in fact, it would not appear that the results known up to now lead to a discouraging evaluation of the bilingual initiative taken in the Autonomous Community: such results support, on the contrary, the conclusion that it is possible to achieve these general objectives of language training assigned to the educational system, emphasizing at the same time that the achievement of such goals would appear to be favoured by the concurrence of certain circumstances. There are good grounds, therefore, for displaying hopefulness.

I would like to mention, finally, some aspects of the task ahead. These studies –large-scale, general, and somewhat sophisticated– of the assessment programme EIFE help shed light on general aspects of the level of knowledge of the two official languages in the Community. It would not be superfluous, however, if the assessment programme were complemented by studies of a more specific nature: for example with assessments at the individual school level, which could provide valuable data on observable improvements and deficiencies, thus making it possible to assess the degree of success achieved in the execution of the language aims enshrined in the individual school's management plan. The Department of Education, Universities and Research is confident that such assessment endeavours are fully justified in order to optimize the substantial resources assigned.

José Ramón Recalde
Minister of Education, Universities and Research

FOREWORD

Although language planning came into existence as an academic discipline only about 20 years ago, policy-makers have engaged in the practice of language planning since the beginnings of civilization. In virtually every society, governments have implemented policies to affect the status, functions and use of particular languages or varieties of languages. Almost by definition, language planning occurs in societal contexts where two or more languages or dialects are used. The languages might be used either by different ethnic groups or by the same ethnic group for different functions (for example, the use of Latin for religious purposes until recently in many Christian societies).

As a result of this historical process there are currently in Europe and elsewhere in the world many "lesser used languages" whose very survival is threatened.

However, the political and social changes that occurred in many western countries during the 1960's and 1970's have resulted in a greater concern for social and educational equity as well as a revaluing of minority ethnic cultures and languages. Thus, in both Europe and North America, previous attitudes have been replaced with at least a luke-warm acceptance of their existence and right to exist. Thus, many countries, and regions within countries, are actively attempting to revitalize threatened languages and to assert the validity of cultural traditions that have survived for many centuries and constitute the heritage and lifeblood of the group. European examples include the Basque, Catalan and Galician languages in Spain, Basque and Breton in France, Frisian in Holland, Welsh and Scottish Gaelic in Britain and Irish Gaelic in Ireland.

However, it is considerably more difficult to revive a language than to eradicate it. A major reason for this derives from the fact that the languages of dominated groups were suppressed in contexts characterized by little concern for human rights. By contrast, in democratic societies where human rights are protected, it is not possible to impose language planning decisions against the will of the people. The language planning process thus becomes extremely delicate in situations such as the Basque Country or Ireland where a large majority of the population

has only limited proficiency in the language that the government is attempting to revive. Providing incentives for people to learn the language, and rewards for those who have learned it, can be carried out only with the consent of the population. If the rewards for learning the language are too great then they will be perceived as discriminating against the majority of the population who have not learned the language. This may lead to negative attitudes towards the revival effort and effectively kill any hope of revival. Continued government implementation of language revival policies thus depends on positive attitudes towards the minority language.

In short, government planners are faced with the difficult task of deciding not only what forms of promotion are likely to be most effective but also what forms of promotion are least likely to alienate the majority of the population whose command of the threatened language is limited.

The educational system has been seen as perhaps the major force historically for eradicating minority languages and currently for reviving them. Certainly, in both Ireland and the Basque Country this is the case. A large-scale sociolinguistic study in Ireland (Committee on Language Attitudes Research, 1975), for example, reported that ability in Irish and subsequent use after school were strongly related to the duration and intensity of Irish language programs in the schools. Specifically, those who received bilingual or immersion-type teaching of Irish were ten times more likely to be now using Irish intensively than those who had studied Irish as a subject only. This competence in Irish was achieved at no cost to children's academic development in English, their native language (see Macnamara, 1966; Cummins, 1977).

The EIFE studies in the Basque Country show essentially the same pattern of results. Students in Model D, (predominantly Basque-medium instruction) and Model B (bilingual instruction) perform considerably better in Basque than those in Model A (Basque taught as a subject). Yet there are minimal differences in the proficiency that students in Models D, B and A develop in Spanish, despite the fact that students in Models D and B have had much less instruction in Spanish than those in Model A. This pattern of transfer of academic skills from the minority to the majority language has also been reported in virtually all the bilingual programs implemented in North America (e.g. French immersion programs in Canada) and is thus a well-established result.

I believe that this pattern of interdependence of academic skills across languages has extremely important implications for language planners attempting to revive threatened languages.

Specifically, it implies that the highly effective bilingual and immersion programs (Models B and D) can be implemented without fear of retarding children's overall development in school. In fact, there is considerable research evidence that when children develop literacy in two languages, they experience an enhancement of their overall linguistic and

cognitive abilities. As a result of having two ways of expressing their ideas, they gain insight into how language itself works and how they can manipulate language more efficiently for problem solving and creative thinking.

It is also clear from the research in many countries that teaching second languages only as a subject tends to be relatively ineffective in developing bilingualism. Students often become frustrated and bored because they do not gain the ability to speak or write the language. Doubtless, programs such as Model A can be improved, but the overall policy direction seems clear. As rapidly as teachers become available, Model A programs should be extended so that at least one and preferably more subjects are taught through the medium of Basque.

One final point in the language planning process is worth emphasizing. At a time when education systems everywhere are experiencing financial restraint, economic aspects of language planning need to be taken into account. Immersion or bilingual programs (Models D and B) need cost no more than Model A programs but they produce dramatically better results. In other words, they are considerably more cost-effective. Another way of expressing this is that continued reliance on teaching Basque only as a subject amounts to squandering scarce resources.

The excellent research carried out in the EIFE I and EIFE II studies has produced findings that are entirely consistent with the results reported in other contexts. They provide a solid foundation upon which to base language policy in the educational sphere. What remains is for policymakers to continue the vigorous promotion of instruction through Euskara that has made the full revival of the language a real possibility. It is essential that this opportunity be taken at the present time when there are strong positive attitudes among the population towards the revival of Euskara and when Model D and B programs have clearly demonstrated their effectiveness.

Jim Cummins
Ontario Institute for Studies in
Education

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1 INTRODUCTION

The EIFE study began in the academic year 1983-1984. It was a large-scale assessment project: the level in Basque and Spanish of almost 2000 children, belonging to the three bilingual teaching models, was assessed.

The analysis of the data gathered that year was rather drawn out, and it was not until May 1986 that a summary of the work was published. This was the first evaluation of a bilingual teaching system that had only recently been put into practice. The measuring instruments used were at that time in an experimental phase. As for statistical and computer resources, the processing of such a volume of data constituted a novelty in the sphere of local educational research.

On that occasion the levels studied were the second (7 and 8 year olds) and fifth (10 and 11 year olds) years of OHO (BGE-Basic General Education). The pupils who were then doing their second year were studied three years later in their fifth (1986-1987) for the present work EIFE 2. The sample has included as far as possible the same schools as then and even the same students. Where individuals were missing, they were replaced by others from the same classroom. On the strength of such an arrangement it was possible to follow in some detail the development of this group of students.

In 1984, however, the study of model B was incomplete, since the student population in model B in fifth year of BGE was still small and thus underrepresented in the sample. One of the most interesting results of this study consists precisely in furnishing information on the development of model B.

As for other features, in EIFE 2 a similar methodology was followed, while past errors were corrected and the entire process was refined. The preparation and follow-up of the field workers was perfected, the correction of errors in the recording phase was also more thorough and, finally, new formulae were tried out in the statistical analyses and in the computer processing.

As regards the study of the influencing factors, there is confirmation along general lines of what was said in EIFE 1, although this time the procedure is more precise and reliable.

To conclude, it must be borne in mind that this work of assessment is being carried out in a changing situation. From a starting point at which the presence of Basque was reduced practically to the *ikastola* schools, the bilingual teaching models are gaining ground from year to year. At present there are virtually no students who do not have classes in Basque (model X). Those who are taught mainly in Spanish (model A) make up the largest group at present, although in relative terms it has

begun to diminish. Model B, based on teaching in the two languages, although the model most recently implemented, continues to grow rapidly and model D, basically in Basque, is also growing to a certain extent. Let us look at the development of fifth year BGE:

	A	B	D	X
1983-84 (EIFE 1)	67.2 %	4.3 %	14.8 %	13.7 %
1986-87 (EIFE 2)	70.7 %	10.4 %	18.3 %	0.6 %
1988-89	63 %	16.5 %	19.8 %	0.7 %

This trend continues. If we look at the level of Preprimary Schooling we see how the models B and D are outgrowing A. Against such a changing background, evaluation acquires a special relevance for a school system that must ensure knowledge of Basque and of Spanish. At the same time one must recognize that the data are in this sense provisional, that they correspond to a particular moment in the development. Nevertheless, they do indeed contribute to the assessment of the present trend.

2. PRESENTATION OF THE STUDY

AIMS

The main aim has been to follow the line of work begun with EIFE 1, and more specifically:

(a) To measure the level of Basque and Spanish of pupils of fifth year BGE in models A, B and D.

(b) To study as precisely as possible the factors that influence the learning of these languages.

(c) To compare the present data (gathered in 1987) with the former data (1984), with regard both to the knowledge of Basque and to the influence of the factors.

(d) Special interest is taken in the study of model B, which, because of its recent implementation, was on the former occasion studied only in second year BGE.

SAMPLE

In EIFE 2 the same general sample was used for fifth year BGE as was used in EIFE 1 for the second. In other words the same classrooms were selected, and even the same students, where possible. Naturally some of those children were no longer to be found in the same schools, in which case they were replaced by others from the same classroom.

The sample is thus equal to that of EIFE 1: stratified, proportional and, in its final stage, a simple random one. In total there are 586 pupils divided among 167 classrooms. By model, the sample is distributed as follows:

116 pupils of model A
235 pupils of model B
235 pupils of model D

The sample of model A is more reduced due to its uniformity, as was demonstrated in EIFE 1 and has been confirmed in EIFE 2.

LANGUAGE TESTS

The tests used to measure the level of Basque and Spanish are the same as were used in EIFE 1. They attempt to measure the four basic language skills, i.e. oral comprehension, oral expression, reading comprehension and written expression. The tests used are basically those published under the names "Galbahe E2" and "Galbahe C2", completed with two simple tests from "Galbahe E1" and "C1". The names and contents of the subtests are as follows:

– Oral Comprehension 1: This consists in choosing, out of four options, the drawings corresponding to sentences read aloud by the researcher.

– Oral Comprehension 2: Similar to the foregoing, with slightly more complicated sentences.

– Oral Comprehension 3: Again similar, with even more complex sentences.

– Reading 1: This consists in choosing the drawings corresponding to written sentences.

– Reading 2: The subject must read and complete sentences, choosing from among four options.

– Written expression: This involves writing down a story told in six pictures without dialogue.

– Oral expression 1: The pupil is required to answer simple questions referring to drawings.

– Oral expression 2: The pupil is required to tell a story based on six pictures without dialogue. The story is recorded by the field worker.

The application of the test is collective except for the oral expression part, which is applied individually.

The tests of Basque and of Spanish are parallel. To distinguish the language of a given test the reference S (Spanish) or B (Basque) will be added to the name.

OTHER VARIABLES COLLECTED

With the aim of determining the main sources of the aptitude that each child demonstrates for Basque and Spanish, another series of data was collected: family language relations, family sociocultural level, outdoor language relations, methodological data with respect to the treatment of the languages in the school and data on the teachers : their experience, expectations, knowledge of Basque, etc., which will be dealt with later.

STATISTICAL ANALYSES

The services of EJIE (Computer Society of the Basque Government) were used for the processing of the information gathered.

The power of discrimination and the reliability of the items were studied with the "Anitem" items analysis programme. The various types of variance analysis were performed with the computer package SPSS X.

For more detail regarding the statistical and computing processes, see APPENDIXES (p. 55).

3. DESCRIPTION OF THE VARIABLES

From among the variables collected a few –the most informative- have been selected for description:

SOCIOCULTURAL LEVEL OF THE FAMILY

The method here was to seek the teacher's opinion. An assessment was thus made that would hopefully be an overall reflection of reality. The majority of families are of medium level. As far as models are concerned, D seems to have a slightly higher level than A or B.

MOTHER'S LEVEL IN BASQUE

Over 70 % of the mothers of children being taught in model D classrooms are Basque-speaking. In model A, on the other hand, the number of mothers who know Basque is minimal. In model B the majority do not speak Basque, but there exists a considerable group of mothers who understand it. The data on fathers are similar.

LANGUAGE USED BETWEEN MOTHER AND CHILD

Practically all children in model A speak with their mother in Spanish. The situation is similar in B. In D the majority of children speak always or nearly always with the mother in Basque.

LANGUAGE OF FAMILY IN MODEL D

In the case of model D the language of relations in the bosom of the family was studied in more detail, since it is there that we find, to a great extent, the key to the transmission of Basque.

Figure 1
Basque-speaking married couples. Model D

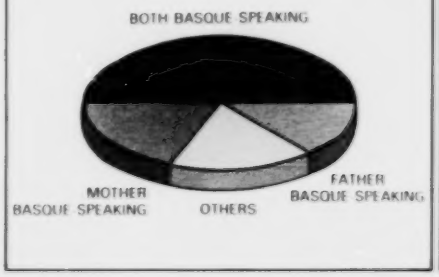
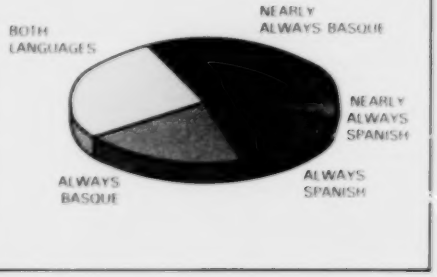


Figure 2
Languages used by Basque-speaking married couples

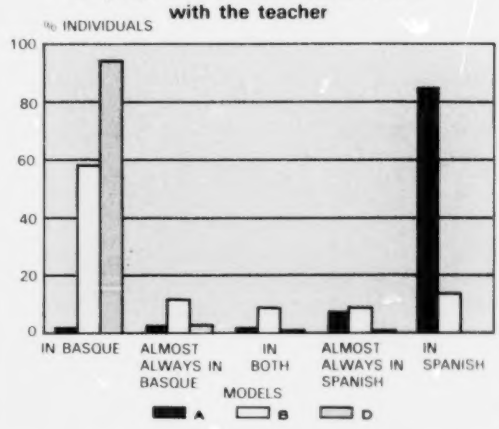


In the first place, a check was made of the number of married couples in which both members were Basque-speaking. As may be observed from the graph, the number of couples in which both husband and wife know Basque is about 50 %.* Concentrating now on the Basque-speaking couples, let us see which language they speak to each other. As may be seen in figure 2, approximately half speak always or nearly always in Basque. Those who speak always or almost always in Spanish make up some 20 %. We also have a group who speak in both languages. Here it is well known that some parents speak to the children in Basque, but to each other in Spanish.

LANGUAGE USED OUTSIDE THE CLASSROOM WITH THE TEACHER

The differences that exist between the models with respect to this point are obvious. Especially noteworthy is the development in model B. In EIFE 1, when these same pupils were doing their 2nd year of BGE, only 23 % affirmed that they spoke exclusively in Basque with the teacher. The percentage has risen to almost 60.

Figure 3
Language used outside the classroom with the teacher



LANGUAGE USED WITH CLASSMATES

The sociological force of Spanish is patent in this variable. The pupils in model D who always speak in Basque are approximately half. In

* These data are based on pupil answers.

model B Spanish is the predominant language and in model A its use is practically exclusive.

SOCIOLINGUISTIC ZONE

Five sociolinguistic zones have been distinguished depending on the proportion of Basque-speakers in each municipality: beginning with the most Spanish-speaking zones (zone 1) and progressing to those that are most heavily Basque-speaking (zone 5). The greater part of the sample is concentrated in zone 1, which comprises the most populated and most heavily Spanish-speaking centres of population. Model A is situated in that zone above all; in contrast models B and D are distributed over all sociolinguistic zones.

OTHER DATA GATHERED IN THE COURSE OF THE STUDY

Other data gathered in the survey were as follows:

- Hours per week of Basque as a subject.
- Level of pupils in Basque in opinion of the teacher.
- Level of pupils in Spanish in opinion of the teacher.
- Mark in Basque at the end of the previous school year.
- Mark in Spanish at the end of the previous school year.
- School performance of the students in the opinion of the teacher.
- Sex.
- Place(s) of origin of the parents.
- Language used in infancy.
- Language used with neighbourhood friends.
- Language used with older people in the neighbourhood.
- Language of favourite reading materials.
- Language chosen for watching television.
- Basque press in the family.
- Whether one considers oneself Basque.
- Opinion re quantity of classes in Basque.
- Expectations of learning Basque in school.
- Attitude to Basque: group of ten items (very positive in general).
- Attitude to Spanish: group of ten items (positive in general).
- Intelligence quotient: Catell's G factor, 2nd scale.
- Type of school: public, private, *ikastola*.
- Changes of model in the classroom.
- Number of pupils in the classroom.
- Teacher native or non-native Basque-speaker.
- Possession by the teacher of the Certificate of Language Proficiency (EGA).
- Years of experience of teacher.
- Teacher's expectations with respect to the level of Basque of the pupils.

Being the most recent model, B is at present applied in the schools in different ways and with varying intensity (see EIFE 1 and PIR-5*). On the other hand, it differs specifically from the other two models. As a result some further data were gathered on model B. For example:

PERCENTAGE OF SCHOOLWORK IN BASQUE

In model B the majority of the schools devote approximately half of the day to working in Basque, but in some classrooms the greater part of the work is done in Basque, while in another smaller group of classrooms, less than 50 % of total work is in Basque.

PERCENTAGE READING IN BASQUE

In this model, and in fifth year BGE, the level of reading in Basque seems to be lower than its level of use.

OTHER DATA ON MODEL B

Other data that have been collected are as follows:

- Intensive class of Basque and its duration.
- Use of a different teacher for each language (the majority do not seem to correspond to this arrangement).
- Language in which mathematics is taught (Spanish in the majority of cases).
- Language in which social sciences are taught (Basque in the majority of cases).
- Language in which students are introduced to reading and writing (Spanish in the majority of cases).

* I. Olaziregi, J. Sierra "PIR-5 hizkuntz testa" Eusko Jaurlaritza. Vitoria-Gasteiz, 1987.

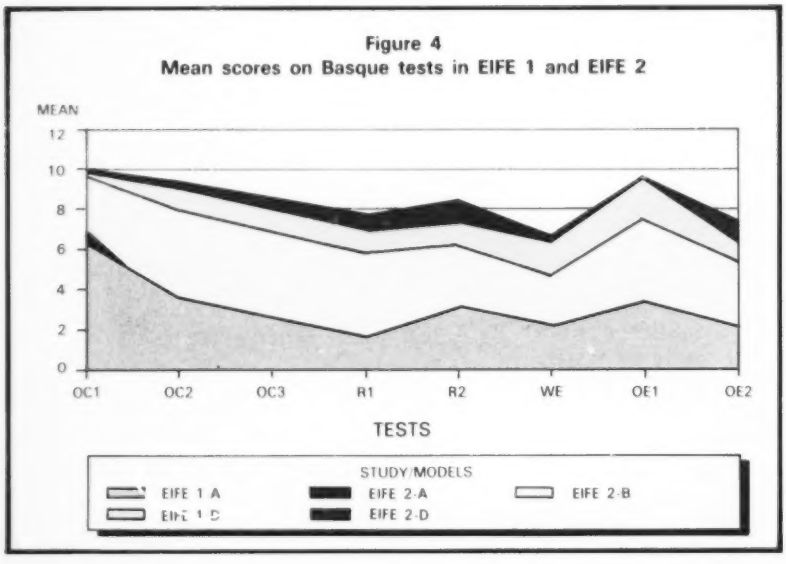
4. SCORES ON LANGUAGE TESTS

Here are the means and deviations in the Basque scores on the different subtests:

	Model A		Model B		Model D		
	$\bar{X}$	S	$\bar{X}$	S	$\bar{X}$	S	
Oral Comprehension 1(B)	6.88	1.97	9.66	0.77	9.97	0.21	(out of 10)
Oral Comprehension 2(B)	3.00	1.97	7.95	1.84	9.38	0.80	(out of 10)
Oral Comprehension 3(B)	2.31	1.52	6.65	2.43	8.49	1.36	(out of 10)
Reading 1(B)	1.76	1.76	5.84	2.30	7.74	1.83	(out of 10)
Reading 2(B)	2.85	1.49	6.25	2.39	8.50	1.49	(out of 10)
Written expression (B)	12.04	7.48	28.21	8.75	39.94	7.01	(out of 60)
Oral expression 1(B)	2.94	2.22	7.44	2.23	9.62	0.67	(out of 10)
Oral expression 2(B)	11.37	8.62	32.06	10.88	44.35	7.01	(out of 60)

If all these averages are presented in graph format, one can observe the following results for each model both in EIFE 1 and in EIFE 2 (except for model B in EIFE 1).*

Figure 4
Mean scores on Basque tests in EIFE 1 and EIFE 2



It is easy to see that, with the exception of Oral comprehension 1(B) and Oral expression 1(B), the tests have proved difficult for model A pupils.

* The tests to be marked out of 60 (Written expression (B) and Oral expression 2(B)) have been scaled down to a maximum of 10. The same has been done with the corresponding Spanish tests (Written expression (S) and Oral expression 2 (S)).

On the other hand, for model D pupils many of the subtests are easy. The more complex are the more discriminating in this group: Written expression (B), Oral expression 2(B) and Reading 1(B).

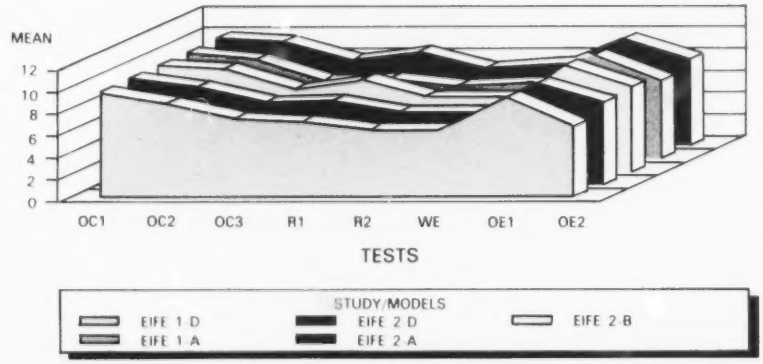
In model B nearly all tests discriminate adequately.

In the Spanish language test, the results were as follows:

	A		B		D	
	$\bar{X}$	S	$\bar{X}$	S	$\bar{X}$	S
Oral Comprehension 1	9.91	0.28	9.79	0.44	9.85	0.39
Oral Comprehension 2	9.62	0.58	9.48	0.78	9.01	0.94
Oral Comprehension 3	7.92	1.47	7.63	1.62	7.65	1.63
Reading 1(S)	8.68	1.45	8.51	1.53	7.68	2.10
Reading 2(S)	7.16	1.57	6.95	1.23	6.70	1.33
Written Expression (S)	46.01	6.58	43.17	6.94	39.99	7.26
Oral Expression 1(S)	9.82	0.37	9.77	0.51	9.31	0.97
Oral Expression 2(S)	47.71	5.26	46.90	6.34	45.45	5.49

It is evident that the three models yield similar results in the different subtests. Model D appears somewhat lower in general, but the difference is minimal. On the other hand, some of the tests have proved too easy (for example Oral Comprehension 1(S), 2(S) and Oral expression (S)) but they have been included to maintain parallelism with the test in Basque.

Figure 5
Mean scores on Spanish tests in EIFE 1 and EIFE 2



As may be seen, the results of model A in Basque are quite low and they do not represent an improvement over the former measurement made in fifth year BGE. The scores even fall somewhat, manifestly due to

the fact that there were more Basque-speaking students then than now in model A, which made the scores rise slightly.

In model D the scores have risen slightly, but the differences are not in general significant.

As for model B, this was the first occasion on which it had been studied in fifth year BGE. As may be observed, the scores fall between those of the other models, although they are closer to those of model D.

The scores for Spanish are much more uniform: in A and B they are even, while scores are somewhat lower in model D. The scores obtained in EIFE 1 were very similar; only for model A can higher scores be observed in EIFE 2.

5. OVERALL SCORES

The formula used to integrate all the scores of the different subtests is based on their variability coefficient:

$$O.S. = S1/\bar{X}1 \cdot X1 \cdot 100/R1 + S2/\bar{X}2 \cdot X2 \cdot 100/R2... + Sn/\bar{X}n \cdot Xn \cdot 100/Rn$$

O.S. = Overall score
S = Standard deviation
$\bar{X}$ = Mean score
X = Individual score
R = Rank

The results in the various groups were taken into account, especially those of the native speakers. In this way a weighting formula was devised that could be valid for the two languages:

$$O.S. = O.02 \cdot OC1 + O.07 \cdot OC2 + O.17 \cdot OC3 + O.19 \cdot R1 + O.19 \cdot R2 + O.16 \cdot WE + O.05 \cdot OE1 + O.13 \cdot OE2$$

The overall scores of both groups are given below:

		Basque	
		$\bar{X}$	S
MODEL	A	23.17	11.42
	B	59.96	16.92
	D	79.04	8.71

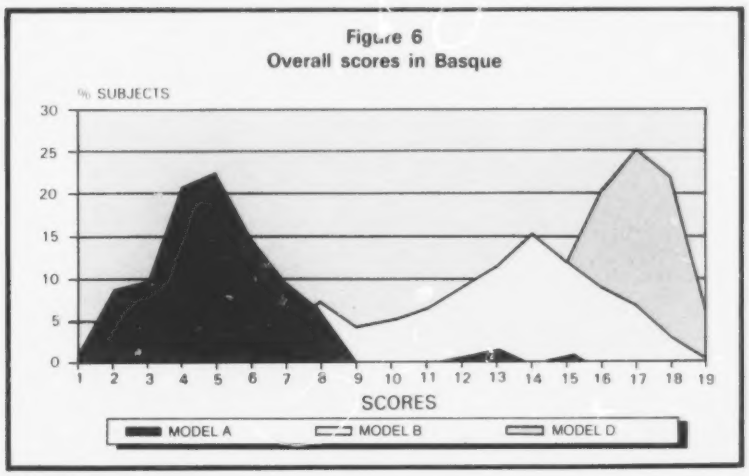
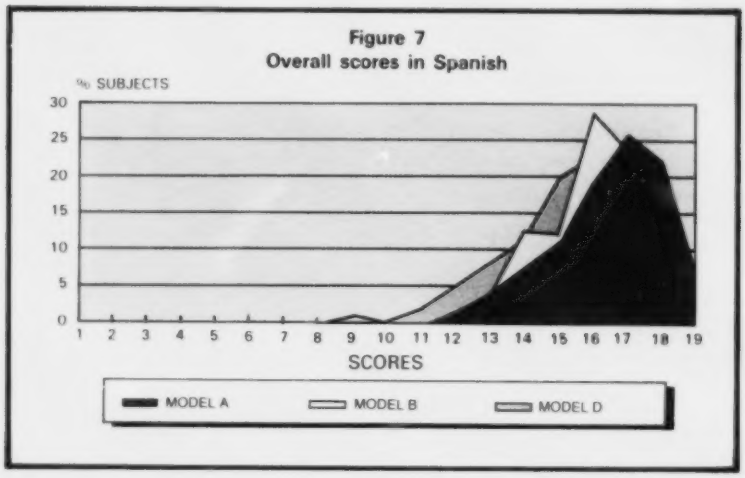
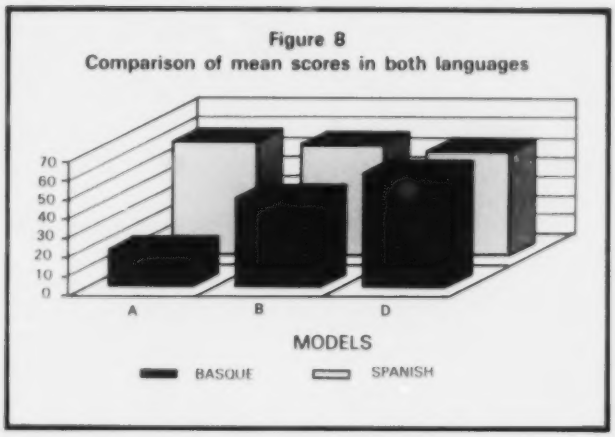


Figure 6
Overall scores in Basque



		Spanish	
		$\bar{X}$	S
MODEL	A	79.81	7.99
	B	77.48	7.56
	D	73.77	9.31



As may be seen, the three models attain very similar levels of performance in Spanish. However, in Basque the differences are obvious. The best level of mastery of the two languages is to be found in model D.

6. ADEQUACY OF LANGUAGE TESTS

Reliability of the overall test was calculated by the "two halves" method, separating the items into odd and even and thereby obtaining two scores. The corrected correlation found between these scores is the index of reliability (or, in other words, a measure of the test's internal coherence).

Indices of Reliability

		Basque	Spanish
MODEL	A	0.90	0.79
	B	0.93	0.73
	D	0.80	0.82

As to the confirmation of the validity of the tests (i.e., whether they measure what they aim to measure), the individual's score both in Basque and in Spanish has been correlated with an external criterion: the score obtained by each pupil in Basque and in Spanish at the end of the previous school year.

Indices of validity

		Basque	Spanish
MODEL	A	0.38	0.56
	B	0.57	0.56
	D	0.50	0.46

It may be said, in accordance with the data obtained, that levels both of reliability and of validity have proved adequate.

7. INFLUENCE OF THE FACTORS: INITIAL ANALYSIS

One of the main aims of this investigation was to analyse the influence of certain variables on the level of language knowledge of the students. Hence there are two essential elements to the design: on the one hand the level of knowledge of the language, a variable to be explained, represented in this case by the scores obtained in the various tests and reduced, for practical reasons, to one single score. And on the other, the explanatory variables, which are sociolinguistic, academic and personal in nature.

As a first step, therefore, the relation existing between the overall score of each individual and each of the variables of the type mentioned has been analysed. To this end a univariant variance analysis of the three models was carried out with respect to the two languages. Indices were obtained whose significance is reflected in the statistic F. The adjoining table is a summary of the results. Only those variables that have a significance exceeding the 0.05 level of reliability have been regarded as significant. Hence the table does not include the F's of less significant variables.

ANALYSIS OF VARIANCE
F OF THE SIGNIFICANT VARIABLES

VARIABLES	MODEL A		MODEL B		MODEL D	
	Basq.	Span.	Basq.	Span.	Basq.	Span.
Type of school		6.3	31.9	6.4		5.9
Change of model in the classroom	7.7				6.5	
Sociolinguistic zone	6.07		8.1			3.2
% of Basque-speakers in the classroom					7.05	4.0
Hours of Basque per week	6.23		2.8	4.4	3.05	
Intensive classes in Basque (mod. B)	–	–	7.2	2.7	–	–
One or two teachers (model B)	–	–			–	–
Language in the case of mathematics (B)	–	–	12.3		–	–
Language in the case of social sciences (B)	–	–	7.05		–	–
Language in the case of reading/writing (B)	–	–	8.8		–	–
% of reading in Basque (model B)	–	–	6.4		–	–
% of work in Basque (model B)	–	–	8.4		–	–
Native Basque-speaking teacher	5.5		8.6	4.3		
Certificate in Basque			6.5			
Teacher's experience	4.3	10.07	9.5		3.6	
Expectations of the teacher			11.5			
Level in Basque according to teacher	6.3	5.3	24.3	16.4	16.4	5.7
Mark in Basque at school	3.8	6.5	23.7	19.7	20.5	7.3
Level in Spanish according to teacher	4.9	9.1	10.4	20.0	5.8	14.2
Mark in Spanish at school	5.4	11.9	13.4	24.0	6.2	13.6
School performance	4.06	6.8	8.3	21.6	12.5	9.6
Sociocultural level of the family		2.6	16.8	11.5	6.4	9.9

VARIABLES	MODEL A		MODEL B		MODEL D	
	Basq.	Span.	Basq.	Span.	Basq.	Span.
Sex						
Origin of mother			14.04			
Origin of father			20.55		6.6	
Basque level of mother			12.01		15.8	
Basque level of father			10.3		11.9	
Language of infancy with mother			9.8		7.6	
Language of infancy with father			8.8		9.3	
Language now used with mother			7.7		5.3	2.9
Language now used with father			9.3		8.2	
Language used with siblings			7.2		8.2	
Language used between parents			4.8		7.8	
Language used with companions			12.1			
Language used with teacher			32.04	2.84		
Lang. used with neighbourhood friends			6.04		2.9	3.4
Lang. used with people in neighbourhood			3.9		9.1	3.3
Language of favourite readings			14.1	4.3	2.8	
Language of television			7.3	4.03		
Basque press in the home						
Considering oneself Basque			25.8	6.1		
Opinion re quantity of Basque classes	4.25		4.2	4.5		
Hopes of learning Basque			7.5	3.3		
Do you like speaking Basque?			18.6	15.4		
Do you like to hear Basque?			34.5			
Does Basque sound unpleasant?			4.1			
Do you like to read in Basque?			11.4			
Is it pleasant learning Basque?			12.2			
Is the Basque class boring?	6.1	6.4				
Why should we have to learn Basque?						
Should all children learn Basque?			14.4	7.3		
Should Basque be compulsory?			13.1	9.7		
Is it pointless to learn Basque?						
Overall attitude to Basque			6.8	3.6		
Do you like speaking in Spanish?			5.7			
Do you like to hear Spanish?				4.5		
Does Spanish sound unpleasant?				7.1		3.9
Do you like to read in Spanish?				12.3		3.9
Is it pleasant learning Spanish?						3.9
Is the Spanish class boring?	4.9					
Why should we have to learn Spanish?		5.7	6.1	4.1		
Should all children learn Spanish?						
Should we use more Spanish?			41.7	10.02	6.4	3.7
Is it pointless to learn Spanish?				8.9		9.1
Overall attitude to Spanish			4.1	3.4		
Intelligence quotient		5.2	5.4	12.4	8.9	11.6

As may be observed, the majority of the variables collected have turned out to be related to levels of language competence at least in some groups. However, some others such as sex are not significant in any.

In any case, in model B the majority of the variables attain a good level of significance. The key to the richness of this group is to be found in the great spread it offers in many of its data.

Once the first analysis had been made, the next step consisted in applying the ONE-WAY procedure in order to check the analysis, observing the significant differences between the categories of the most important variables. There follows an overall view of the results of this procedure, since exhaustive treatment would be prolix:

Type of school. It may be observed in model B that the pupils from *ikastola* schools achieve better marks in Basque. In Spanish these students are equal to those of private schools.

Sociolinguistic zone. In model A it may be observed that the individuals belonging to the most heavily Spanish-speaking zones achieve the lowest marks in Basque.

Percentage of Basque-speaking students in the classroom. Only in model D is it possible to observe some influence from this variable, and even then restricted exclusively to the most extreme groups: in other words, to those that have a very high percentage of Basque-speakers or, on the contrary, a high percentage of Spanish-speakers. The first of these two groups shows a higher level in Basque and a level somewhat lower than average in Spanish. At the other extreme, the opposite phenomenon occurs in those classrooms in which Spanish is widely spoken.

Hours of Basque per week. It is in model A that this variable has most influence. The individuals who receive four or more hours weekly of Basque attain a higher level in this language than those who receive only two or three.

Percentage of work in Basque. In this study model B was treated more specifically. Questions were introduced that, as remarked above, were not put to the other groups. In this model, as is already known, two languages are used as a vehicle for transmitting knowledge: on the one hand the pupils' mother tongue, generally Spanish, and on the other the language to be acquired, in this case Basque. The importance and place given to the latter have a significant importance, according to the analysis, when the time comes to explain the level in Basque achieved by the pupils. Those who learn mathematics totally in Spanish show a lower level in Basque than the rest. On the other hand, the individuals who take social studies in Basque master this language better than those who study the same subjects in Spanish or for that matter in both languages. In spite of the fact that they represent only a small group within model B, those who learn to read and write in Basque are those who obtain a higher level in this language. And, in like manner, those who prefer to read in Basque also get better marks in this language. If the percentage of daily school work in Basque is below 40 %, the results obtained in the Basque tests are significantly below those of the rest. However, other specifically gathered variables do not seem to have much influence. In the case of factors such as having a teacher for each language or working intensively in the second language, for example, either they do not show a sufficient level of significance, or the order of the categories does not allow a clear interpretation of their influence.

Type of Basque-speaking teacher. It is a salient fact in model B that the pupils of native Basque-speaking teachers obtain higher scores in Basque. On the other hand, in model A it is the pupils of non-native Basque teachers who obtain a higher level in Basque. However, it is necessary to treat these data with considerable caution, for the pupils have had more than one teacher before reaching fifth year BGE, and, evidently, their level cannot be ascribed to the work of one teacher.

Teacher's experience. Good results in Basque of the pupils seem to correspond more to those teachers with six or more years' teaching experience.

Expectations of the teacher. This variable refers to the opinion of the teacher regarding the level of Basque that the students will reach. The individuals whose teacher believes they will learn Basque well or very well obtain better scores, while, on the other hand, those whose teacher shows poorer expectations obtain lower scores in Basque.

School performance. In the majority of cases the pupils who in the teacher's opinion show a high school performance obtain better scores than those they regard as performing on a normal or low level, and this occurs not only in Basque but also in Spanish.

Sociocultural level of family. The influence of this variable is patent, above all in models B and D, so that the individuals at the highest level obtain better scores in the tests, while those of lower level tend to have poorer scores. This applies to the two languages assessed in the present study.

Origin of parents. This variable seems to affect level in Basque, but not in Spanish. If we look at model B, the most noticeable thing is the relative disadvantage of the pupils whose parents come from outside the Basque Country. Model D also illustrates the advantage of those from the Basque province of Gipuzkoa.

Level of Basque of parents. In both B and D the influence of this variable on knowledge of Basque is clear. Those children whose parents do not know Basque are clearly differentiated, since they obtain lower scores in the tests.

Language in the home. The use of Basque as family language (with parents, siblings and so on) ensures better test results in both D and B. In model A these variables do not seem significantly correlated with marks, which stands to reason, since the few Basque-speaking individuals in the sample of this group were excluded from the analysis.

Language in school (with companions, teacher, and so on). The influence of this variable is clear, especially in model B, since the other two are notably more uniform in this respect. Outstanding in this regard are those individuals who always deal with their companions in Basque.

Similarly, the more they speak in Basque with the teacher, even outside class, the better the scores they obtain.

Language of social environment (with friends, people of the neighbourhood and so on. This variable is important in models B and D. To live in a Basque-speaking social environment positively influences the test level achieved.

Preferred reading. Those students whose habit is always to read in Spanish achieve lower scores in Basque, but they are not distinguished from the rest by their scores in Spanish.

Television. This variable proves significant only in model B, to the extent that watching TV in Basque favours the achievement of higher scores in that language, while to watch it always in Spanish does not lead to a higher level in the latter language.

Considering oneself Basque. In model B, lower scores are obtained by those few students who do not consider themselves Basque.

Opinion regarding number of classes in Basque. In model A, those pupils who believe they have too many classes in Basque belong to the lowest level in the language. But they are very few.

Learning Basque in school. In model B, although they are few, those who believe they will learn little Basque in school achieve the lowest levels in that language.

Attitude to Basque. In order to study this variable, a set of ten items was applied to the children, putting questions as to whether they like to speak in Basque, whether they like to hear Basque spoken, whether they like to read in Basque, whether learning Basque is pleasant, whether the classes are boring. They are also asked about the need to learn it, the duty to use it, and the utility in so doing. The answers in this attitudinal area proved very significant in model B. It may in general be said that better scores were achieved by those who demonstrated a very positive attitude than by those whose attitude was intermediate.

Attitude to Spanish. This was measured in the same way, with similar results. These variables have influence mainly in models B and D.

Intelligence quotient. The individuals with a high intelligence quotient achieve better results than the rest, both in Basque and in Spanish. This does not occur, however, in model A with respect to Basque. The explanation lies perhaps in the low Basque level of the pupils in this model. It is necessary to add, on the other hand, that in the present study, by means of the tests used one may measure to a certain extent the cognitive academic aspects (CALP in J. Cummins' terminology), which are those that most often have seemed to relate to IQ.

8. GROUPING THE VARIABLES

Once variables have been selected from the initial analysis of variance, the following step consists in making diverse multivariant analyses (for each teaching model and language) that involve all variables.

However, the number of variables to be introduced into the analysis was excessive, hence a process was adopted that would group variables by nature. This preliminary grouping was made above all on the basis of the logic of the researchers and their working hypotheses. The homogeneity of the groups was checked afterwards, analysing whether their variables acted in the same direction. To this end contingency tables were constructed by pairs of variables, within each group, in the various models and languages. On the strength of these analyses it was decided that the groups established were sufficiently coherent, although some small adjustments were necessary.

An index was later constructed in each group to assign a given value to the categories of each variable. It was then possible for each group to behave in later analyses like a single variable. Their number was thus reduced, and, with inconsistent categories recoded, the variables were reinforced.

With the new variables obtained, an analysis of variance was again made group by group to check both their significance and their homogeneity.

Following on from this process, later steps were to involve more representative variables in homogeneous groups.

9. INFLUENCE OF THE FACTORS: FINAL ANALYSIS

Finally, taking the new variables or groups obtained by the method above and the scores of the pupils in the two languages, a final analysis of variance was begun. The groups, independent variables, behave as explanatory factors, while the scores are the dependent variables to be explained.

From the processing carried out one can deduce that the groups of variables cited are the most significant when an explanation of the subjects' language levels is called for. This does not mean, of course, that there are no other influencing factors. It is evident that there exist other variables with undeniable influence, such as teacher's aptitudes, methodology used, school organization, personal motivation and that induced by the environment and so on. It has not been possible, however, to collect data on all these factors. It is also necessary to delimit the meaning of language competence, since it was measured with instruments belonging to the school world and restricted to a school language context. Hence it may be rash to affirm that what was measured was overall language competence. The performance of the subject in other communicative situations (for example with friends or parents) is unknown.

Now that these observations have been made the results may be presented.

FACTORS THAT INFLUENCE LEVEL IN BASQUE

The groups of variables that show a stronger relation to the level of knowledge in Basque in each bilingual teaching model are now set forth.

MODEL A

1) **Teacher** (F = 11.1)

The "group" contains only one variable. It takes into consideration the language profile of each teacher. As already stated (p. 36), the study reflects in each case a singularly unusual result: the best scores seem to come from the students of teachers who are non-native Basque speakers. These are ahead of the scores achieved by students whose teachers are either native speakers or persons learning Basque. It should be remembered, however, that the Basquising effect is not attributable to those who undertake such teaching in a given school year.

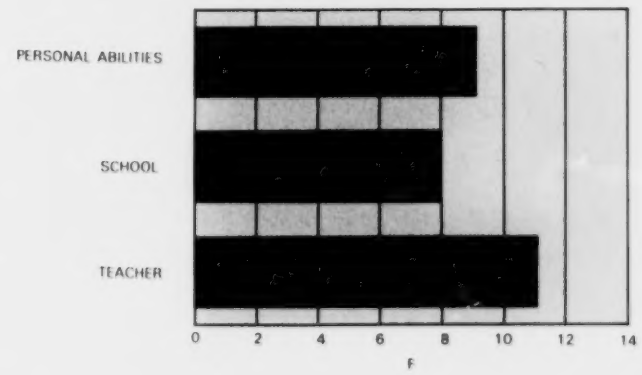
2) **Student's abilities** (F = 9.12)

Two elements have proved significant in this group: good school performance and high scores in Spanish.

3) **Educational institution** (F = 7.97)

In model A the most favourable situation is that of schools teaching Basque at least four hours per week and of those classrooms that have passed from model B to A.

Figure 9
Groups of variables that influence level in Basque. Model A



MODEL B

1) **Teacher** (F = 8.96)

Especially relevant in this group are the following requirements: that the pupil speak in Basque with the teacher, that the teacher be confident his/her pupils will learn Basque and that the teacher be a native speaker.

Somewhat less relevant were: the number of years (seven upward) that the teacher has been teaching, and the holding of a certificate of proficiency in Basque.

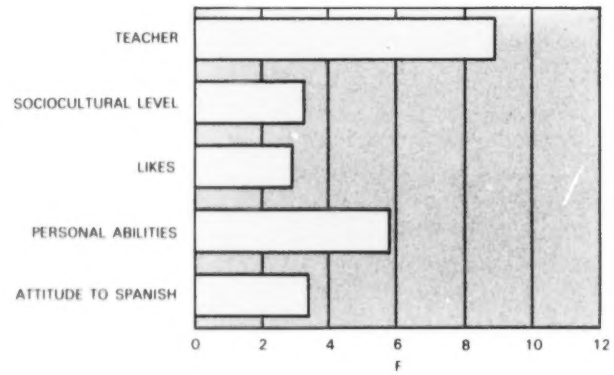
2) **Pupil's abilities** (F = 5.83)

Particularly associated with a good level in Basque are scores in Spanish, school performance and IQ.

3) **Attitude to Spanish** (F = 3.42)

Although at first it may appear somewhat surprising, attitudes toward Spanish are particularly related to scores in Basque; it is not however totally unexpected: thus those who have obtained the highest marks in Basque do not believe that we should all speak more in Spanish. This may in the end be interpreted as a favourable attitude to Basque. The following variables belong to the same group: a) lack of interest in expressing oneself in Spanish and b) thinking there is no reason to learn Spanish.

Figure 10
Groups of variables that influence level in Basque. Model B



4) Sociocultural level (F = 3.3)

One should remember that it was the teacher who furnished an estimation of the family's sociocultural level. This criterion has turned out to be directly related to the pupil's knowledge of Basque in model B: a higher sociocultural level in the family corresponds to a higher level in Basque.

5) **Likes** (F = 2.96)

This final group of variables comprises both including books in Basque among preferred readings and watching Basque programmes on television.

MODEL D

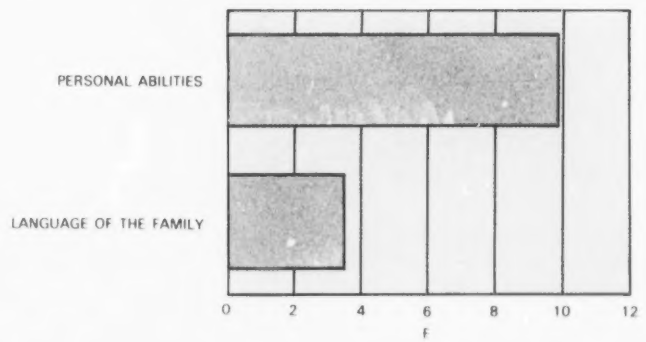
1) **Pupil's personal abilities** (F = 9.89)

Good scores in Spanish and a good school performance correlate positively with good scores in Basque. IQ is also included in this group of variables.

2) **Language of the family** (F = 3.52)

This set of variables reflects language use in the family: knowledge of Basque on the part of the parents, always speaking Basque with siblings, speaking Basque with parents, whether Basque is spoken between the parents themselves and so on.

Figure 11
Groups of variables that influence level in Basque. Model D

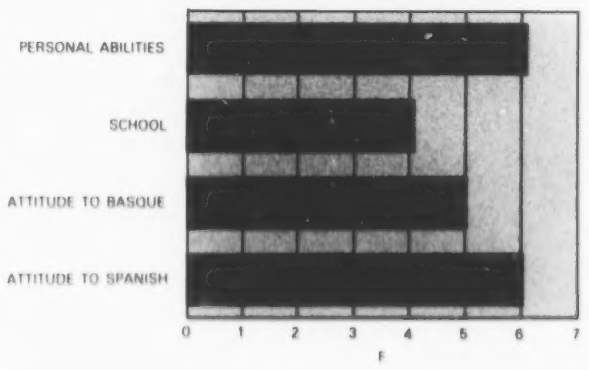


FACTORS INFLUENCING THE LEVEL OF SPANISH

It cannot be doubted that, with Spanish in a much more favourable sociolinguistic position than Basque, the level of knowledge of Spanish is broader and more intense. This applies also to the school. Hence on looking for the reasons for the differences in level in the case of Spanish, one finds a clearly different spectrum of variables. On the other hand, one will see that the differences to be explained between levels are not as great as with Basque.

MODEL A

Figure 12
Groups of variables that influence level in Spanish. Model A



1) **Student's abilities** (F = 6.11)

This group, consisting of scores in Basque, school performance and IQ, is the one most positively correlated to scores in Spanish.

2) **Attitude to Spanish** (F = 6.04)

There is only one variable in this group. Those subjects who answer that there is no reason for studying Spanish (very few) have very low scores.

3) **Attitude to Basque** (F = 6.11)

Those who claim that the Basque class is boring unexpectedly achieve a low mark in Spanish. Here one may discern a lack of interest in language generally, or, perhaps, in school.

4) **Type of school** (F = 4.09)

Higher scores are achieved in private schools than in public ones (there are no *ikastola* schools in model A).

MODEL B

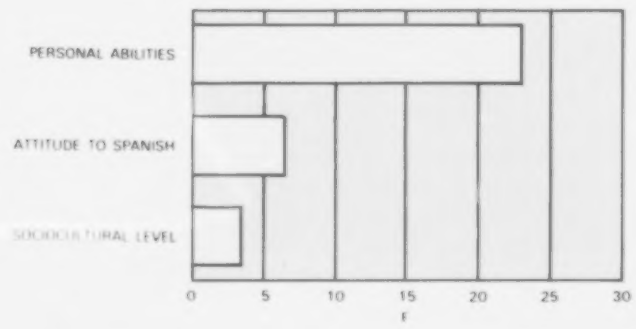
1) **Pupil's abilities** (F = 23.4)

To the extent that scores in Basque, school performance, and IQ are good, it might be expected that the level of Spanish would also be good; and that, indeed, is what the results show.

2) **Attitude to Spanish** (F = 6.52)

The majority of the students in model B have a very positive attitude to Spanish. They like to hear it spoken, they do not believe it sounds unpleasant, they believe it should be learnt and that it is useful, and they like to read books in that language. The last variable is especially important in this group. However, they do not believe it is necessary to speak more in Spanish, and this opinion is not something against the language: on the contrary, it correlates with good scores in Spanish.

Figure 13
Groups of variables that influence level in Spanish. Model B



3) **Sociocultural level** (F = 3.49)

Pupils belonging to familes of a lower sociocultural level achieve lower scores.

MODEL D

1) **Language of the family** (F = 22.17)

Among all the questions asked regarding the language spoken by the family in model D, the variable of most significance in explaining the level of Spanish turned out to be the language the child spoke with his/her mother. It is in fact the only variable that has been included in this group. Those who speak always, or on most occasions, in Basque with the mother achieve somewhat lower scores than the rest in the Spanish tests.

2) **Neighbourhood language** (F = 8.15)

Those who live in a Basque-speaking environment in their relations with friends in the street or neighbourhood achieve slightly lower Spanish scores than those whose environment is more Spanish-speaking.

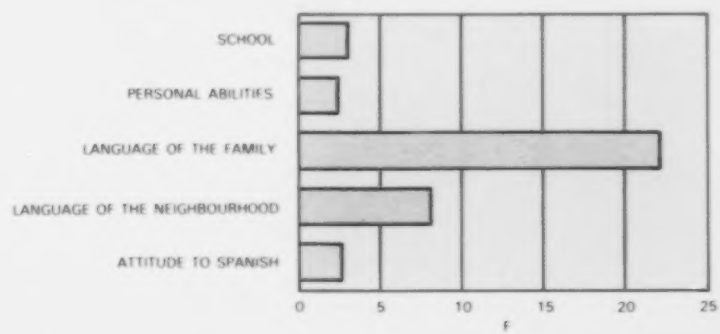
3) **Educational institution** (F = 3.11)

This group is composed of two variables: type of school and percentage of Basque-speaking pupils in the classroom. The level of Spanish is better in those classrooms in which the students are almost all Spanish-speaking. Likewise, the Spanish scores in the private and *ikastola* schools are above the average attained in the public schools. It should not be forgotten that the public schools offering model D are very often to be found in small very Basque-speaking villages.

4) **Attitude to Spanish** (F = 2.69)

What happens in model D is somewhat similar to what was observed in B. Good scores correspond to favourable attitudes

Figure 14
Groups of variables that influence level in Spanish. Model D



(likes speaking Spanish, the view that it does not sound bad, likes reading it, the view that it is pleasant to learn). The unfavourable attitudes, on the other hand, correspond to low scores. However, to deny that we should use Spanish more cannot be considered an unfavourable attitude. It is more a realistic attitude, recognizing that the language most in need is Basque. Indeed, those who think so obtain good scores in Spanish.

5) **Pupil's abilities** (F = 2.47)

Finally, the group of personal abilities comprises scores in Basque, school performance and IQ. Good results in these variables entail high marks in the Spanish language tests.

SUMMARY

As far as results in Basque are concerned, there are data worthy of mention in the three teaching models.

In the case of model A what count are school-based factors (teacher, hours of Basque) and personal attitudes. For this model in particular the present study has provided a more accurate view than that afforded by EIFE 1.

In model B the factors involving the teacher are again especially relevant, above all the language s/he uses with the pupils. It is clearly profitable for Basque to be the language used in the relationship. This confirms data previously obtained (EIFE 1, PIR 5). Apart from personal abilities, one may clearly appreciate the influence of family sociocultural level (this was not among the data collected by EIFE 1).

Finally, in model D there appears something that was observed in EIFE 1: the priority of personal abilities and family language over other factors.

Turning to Spanish, it should be remembered that its sociolinguistic position is not that of Basque. We find ourselves confronted by a normalised language with a strong social presence, and between students the differences in scores to be explained are smaller.

In model A there are several factors influencing knowledge of Spanish. The most salient ones are personal abilities, followed by attitudes to the two languages.

In the case of model B also the influence of personal abilities is obvious. The sociocultural level and attitudes toward the languages add certain interesting subtleties.

Finally, in model D the factors that generate the greatest differences are the family language and that of the environment.

10. OVERALL VIEW

Rather than being a rigid and immovable structure, the educational system in the Autonomous Community of the Basque Country is at present an area of society undergoing continual change. As far as the language situation is concerned, a profound change is under way and is carried over from one school year to the next: what was formerly an institution operating (almost) exclusively in one language is clearly on a path towards a situation where bilingual schooling is the universal norm. This would suggest that the data and results regarding language training that the educational system has been providing are entirely provisional: better suited to calm analysis and dispassionate reflection than to the extraction and promotion of practical corollaries of a universal nature. Hence it would appear advisable to place the present EIFE 2 study within a perspective of greater scope and duration: it was based on empirical evidence of a primary sort, drawn together by EIFE 1 and looks forward already to its continuation in EIFE 3, which is under preparation.

Even taking the clear state of change in which Basque schooling is immersed for granted, it would be illogical to try to underestimate, in the name of such provisionality, the results yielded by the present study (as equally in the case of those formerly provided by EIFE 1 and those to be derived from EIFE 3). The fact that it reflects features characteristic of a transitional period does not invalidate its high indicative value: indeed it offers outstanding information concerning bilingual schooling in this Autonomous Community. It should be further added that the core data afforded by EIFE 2 (in particular those relating to basic tendencies, preconditioning factors and specific features of each bilingual teaching model) agree very substantially with the results from EIFE 1.

Hence in summarizing it is reasonable to look at one or two considerations regarding those trends, preconditioning factors and characteristics that appear to transcend a level of merely momentary relevance.

1. EVOLUTION OF THE MODELS

The following conclusions may be drawn from comparing the data of EIFE 1 and EIFE 2:

Evolution of model A: no significant change appears to have occurred in the interval from one measurement to the next. Apart from indicating a Spanish level as high as that of before, the level in Basque of model A students continues to be low. The pupils in fifth year BGE in 1986-87 show, very much in the manner of those in 1983-84, a singularly low level in Basque.

Evolution of model B: unlike the cases of models A and D, in this case it is not possible to compare fifth year BGE students in 83-84 with their counterparts in 86-87. EIFE 1 did not include fifth year BGE data for model B students since in 83-84 it had still not reached that level.

It is possible, nevertheless, to make another type of comparison. Since the students in model B measured now (86-87) in fifth year BGE are, but for a very few exceptions, the same as in model B in 83-84, second year BGE, it seems fitting to analyse the evolution of the level of language competence during those three years. That analysis indicates an important advance, from 83-84 to 86-87, in the level of Basque of the above-mentioned model B students. Their scores, in other words, have shifted from the area of the spectrum typical of model A toward the zone associated with D.

Evolution of model D: no substantial changes have been observed with regard to model D. It is indeed true, that the model D pupils in fifth year BGE, EIFE 2, show a slight improvement in Basque scores. But the fact that different groups of pupils are involved in the two studies does not encourage the drawing of inferences, nor can one go beyond merely recording the phenomenon.

II. IMBALANCE BETWEEN LEVELS IN SPANISH AND BASQUE

The pupils of the three bilingual teaching models show a quite similar level of language competence in Spanish. But the situation is different with Basque:

– The similarity of levels in both languages is evident only in model D. It is the pupils in this model, therefore, who in general show a more balanced mastery of the two languages.

– EIFE 2 shows that the pupils in model B are reaching a level of competence in the second language worthy of mention.

It should not be forgotten, however, that the influence of one or other model on the achievement of the corresponding level of language competence is limited: the majority of model D pupils are, to a greater or lesser extent, mother tongue Basque-speakers. The mother tongue of pupils of models B and A, however, is generally Spanish.

III. BILINGUAL EDUCATION DOES NOT IMPAIR LANGUAGE COMPETENCE IN SPANISH

The basic environment of Spanish-speaking pupils (home, playmates, neighbourhood, media) is generally firmly Spanish-speaking from the time of infancy. Hence the intense exposure to the language affords them an abundant and productive input, which guarantees them the acquisition of sufficient language skill in the mother tongue. And so their later exposure, during part of the school timetable, to Basque does not impair their Spanish. In fact the level in Spanish of both model A and model B pupils is similar.

Furthermore, even pupils who are mother tongue Basque-speakers and pursue their studies in model D acquire a similar competence in Spanish with ease, though a little less rapidly than their contemporaries

in A and B. Indeed most fifth year BGE pupils in model D demonstrate a Spanish competence that is fairly close to that of the pupils in A and B. In other words, the pupils who are native speakers of Basque are becoming (or have become) actively bilingual. It is the process of bilingualization in the reverse direction that is not always fully guaranteed.

IV. SOME SIGNIFICANT FACTORS

In addition to the observations already noted, we should in this summary look at some elements that are similarly worthy of description. The most significant are explained briefly in what follows.

IV.1. **Presence of the second language: how much and how**

For pupils of models B and A, since their family and normally neighbourhood background are Spanish-speaking, great importance attaches to the type of bilingual organization in the school or stream: even in model A itself (and, especially, in B) there exists a great difference from one school to another, and this has an undeniable effect on the level of Basque attained by the pupils. All the signs point to two principal variables in the organization of the school programme:

(a) *Weekly Basque input.* In other words, how many of the total number of weekly contact-hours are devoted to Basque, whether as subject or medium.

(b) *Nature of Basque input:* differences between Basque as subject and Basque as medium. It is one thing, it seems, to limit the contact of Spanish-speaking pupils with Basque to the subject lesson or, besides that, for them to have to learn certain subjects in the language and, as a result, to feel obliged to apply their competence (at whatever level) in Basque to diverse spheres of knowledge. In those cases in which Basque is not only a subject but also medium, fifth year BGE students are reaching better levels of competence in the language according to the research data.

Among the native Basque-speaking pupils in model D, however, other factors such as school performance, IQ and so on seem more important, much as in the case of mother tongue situations in normalized circumstances.

IV.2. **Influence of language relations outside the classroom**

The pupil's language skills are probably strengthened no more through classroom activity than through relations outside the classroom and even those relations that are removed altogether from the school. The fact that Basque is the language of relations with companions and teachers (at play-time, for extracurricular activities and so on) proves very important when the time comes for significantly reinforcing those skills.

The school in general, and teachers in particular, ought to be acquainted with, evaluate and keep in mind this factor.

IV.3. **Importance of the Basque-speaking family environment**

Normally children's language ability and their tendency to use a given language have their roots in the family. In those cases in which the parents (or at least one of them) are Basque-speakers, it is of crucial importance that the children use Basque with them. The influence and importance of the Basque-speaking family environment in these cases is, to a certain extent, irreplaceable: it is against this background that children learn to relate with their basic environment, with the school later on improving and reinforcing their level of competence.

V. BACKGROUND TO RESEARCH METHODOLOGY AND CONCLUSIONS

In the case of EIFE 2 the methodology and lines of research used are comparable with those of many other studies carried out worldwide on bilingual teaching and on the resultant levels of language skills. Comparability has in fact been explicity pursued by EIFE 2: in this way the most important factors have been isolated by means of variance analysis, regression analysis, groupings and other types of variable processing. As for results, here also EIFE 2 agrees with those obtained, currently and in the past, in many traditionally bilingual countries. And furthermore it is being demonstrated that many of the basic formulations that have been proved at one time or another in other minority language communities in various parts of the world show a similar level of validity in the Basque Country. It may therefore be concluded that although the Basque Country is unique in its language and in many circumstances, the situation and basic tendencies, like the variables involved and results obtained, are far from surprising or anomalous. In short, comparing the organization of the bilingual teaching models in force in the Autonomous Community with programmes elsewhere, one may indeed observe that they behave similarly insofar as their preconditioning factors and results are concerned.

APPENDIXES

SOME COMMENTS ON STATISTICAL METHOD

The research aims at determining which factors influence the variables by which the language learning level is measured, and also to assess their importance. It is thus hoped to contribute to a better formulation of the language-related criteria of educational policy, providing information on those aspects that should be acted on or on the results that may be expected from specific educational policy measures. Specifically, the question is one of explaining scores in Basque and Spanish achieved by pupils in models A, B and D by means of a set of factors or features relating to the students (environment, family, teachers, etc.). In view of the many factors considered (approximately 66 variables, each of four categories), it was not possible to study the phenomenon via a single overall procedure. Hence procedure was as follows:

1. STUDY OF THE RELATION OF EACH FACTOR WITH THE VARIABLES TO BE EXPLAINED

For each of the factors a one-way analysis of variance (ONEWAY SPSS-X) was carried out. This provided relevant information on the importance of the association of variable with factor (level of significance of F) and the direction of the association, as well as on the importance of the categories within the factor involved. Researchers were thus enabled to analyse which factors seemed, to begin with, most likely to explain the scores, in order to see whether the direction of the association corresponded with what was expected and also in order to group within factors categories that did not appear to differ significantly among themselves.

2. STUDY OF THE INFLUENCE OF FACTOR GROUPS IN ISOLATION: FAMILY ENVIRONMENT, PERSONAL ABILITIES, NATURE OF TEACHING STAFF

All promising factors were grouped according to the affinity of the aspects or characteristics they study. A multivariant analysis was made for the factors included in each group, taking all the factors of each group as explanatory variables. This established, at least partially, the importance of the group in the explanation. Accordingly one could establish at least tentatively a ranking of groups according to their degree of importance. Given the affinity of the factors, it was not surprising to observe phenomena of multicollinearity: the influence of a factor is mixed in (it is not additive) with that of another (which is studying practically the same phenomenon: speech in the home, speaking with the mother...) and which, therefore, can be reunited in a factor that will include both. To this end contingency tables were devised of all factors in each group. Finally, given the association between factors and taking into account the direction in which the categories operate, a single factor was constructed for each group, through grouping of categories.

3. COMBINED STUDY OF THE VARIOUS DIMENSIONS (THE GROUPED VARIABLES) EXAMINED BY MEANS OF THE FACTORS

This was carried out by means of the general linear model. In the present case the procedure used was ANOVA, belonging to the statistical package SPSS-X, with neither interaction nor covariables. The option was taken to eliminate the analysis of covariance taking the variable Basque (or Spanish) score as covariable, as this was not in principle the main object of analysis and because the distortion in the behaviour of the other factors and in the explanatory power of the model was not significant. In its outputs the procedure yielded information on the following:

– The combined importance of the groups of variables, with their overall F's level of significance of F, and the determination coefficient R^2.

– The classical scheme of Analysis of Variance.

– The F of each factor and its level of significance, as well as the increase in the sum of squares explained (as is well known, the F is no more than the relative importance of the latter, corrected by tne degrees of freedom).

– Also the statistic Beta squared or standardized coefficient of regression.

COMPUTER BACKUP OF EIFE 2 STUDY

1. COMPUTERS AND PROGRAMS USED

In addition to the utilities of each of the two computers used in the study, the following programs were used:

COMPUTER	PROGRAMS
MINI 6/HONEYWELL BULL	P-STAT (integrated program for data processing and statistical analysis).
	BISEP1 (FORTRAN program for item analysis).
	PD06002 (FORTRAN program for data selection and merging).
UNISYS/1100	SPSS (integrated program for data processing and statistical analysis).

2. PROCESSES

2.1. **Recording and validation**

Questionnaires addressed to the pupils and questionnaires addressed to the teachers were recorded. The latter provided information regarding the classrooms. Both were related by a classroom code, by means of which repetition of the classroom information on each pupil questionnaire was avoided. In the initial data validation processes the questionnaires were dealt with separately. Whether all variables had admissible values was checked, as per definition of the questionnaire, and checks of a logical type were made: for example, the compulsory nature of the reply to a certain question depending on others... etc. By these processes files were obtained with valid questionnaires, as well as listings of the erroneous questionnaires indicating the type of error detected on each.

In a subsequent procedure the valid questionnaires of pupils and teachers were merged, thus obtaining a single file that contained all the information on both.

Validations were carried out entirely with the program P-STAT.

2.2. **Frequencies**

For an initial study, frequencies were obtained of all the variables of the pupils' and teachers' questionnaires by models (A, B, D). The instruction FREQ of P-STAT was used.

2.3. Item analysis

By means of a FORTRAN program a file was prepared with the format necessary to process it with the program BISEP1. This program was used to analyse the reliability of the tests.

2.4. Creation of SPSS files

By means of utility programs the files with the pupils' and teachers' questionnaires were transferred from the MINI6 computer to the UNISYS/1100. With the program SPSS a new file was created with the correct format for its later use in the analysis.

2.5. Statistical analysis

On the basis of the file with the original variables, obtained in the former process, a new file was created that, apart from these variables, contained new derived ones (recodings, regroupings, calculations, etc.). It is on the basis of this file that the statistical analyses described above were carried out.

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